Engineering 101, Winter '05   Homework 5

Name: _____ uname:_____ Lab section: _____

This assignment is due March 29th either in class or in the course "box" by noon. Late homework is not accepted.

You are to turn in these pages as part of your assignment (rather than using separate sheets), though you are welcome to use additional sheets of paper as needed. All pages must be stapled. Assignments that are unstapled or are difficult to read will lose at least 50% of the possible points and we may not grade them at all.

This assignment is worth about 1% of your grade in the class and is graded out of 50 points. Remember you may drop one homework assignment.

The C++ code associated with this assignment can be found on the website. *Note, that for some of these questions the correct answer might be "undefined".*

Money: **[11]**

1. When "HERE1" is reached, what is the value of tom.amount?**[1]** _____

2. When "HERE1" is reached, what is the value of bob.amount?**[1]** _____

3. What is printed by the first invocation of print? (Be exact and include any spaces.) **[2]**

    _____

4. What is printed by the last invocation of print? (Be exact and include any spaces.) **[3]**

    _____

5. Write a member function called "get" which returns the integer found in amount. **[4]**

Cards: **[30]**

1. What would be printed if a.kind=3 and a.suit=2 when the call: "a.printCard()" is made? Be sure to clearly indicate any newlines or spaces printed. **[2]**

    _____

2. Consider the class "Deck". The public constructor takes a single integer argument. What is that argument used for? **[2]**

    _____

3. After "dealer" is declared in the main (and its constructor has finished running), what is the value of dealer.element[1].kind? **[3]** _____

   dealer.element[5].suit? **[2]** _____

4. Right before the "for" loop in the main starts, what is the value of nextC.kind? **[2]**

   _____

5. Right after the "for" loop finishes, what is the value of N.NumCards? **[3]** _____

6. What is printed to the screen by this program? **[6]**

7. If DEBUG were set to 1, what would be the first line printed to the screen? **[4]**

   _____

8. Write a member function of Hand which returns the largest "kind" currently in the hand. The order of value is that 2 is the lowest, then 3, 4, .. Jack, Queen, King, Ace. The return value should be an integer. **[6]**

Misc:**[9]**

1. What is the 5-bit two's complement representation of –12? **[1]** _____

2. What is the largest value which can be represented using a 16-bit 2's complement number? **[2]**

   _____

3. Write a Matlab program which finds the second smallest value in a 10 by 10 array named bob. **[6]**